In the United States Patent Office
Interference No. 20,635

Frank L. Capps	Process of molding
versus	celluloid sound records
Thomas A. Edison	

TESTIMONY ON BEHALF OF CAPPS.
BRIEF FOR CAPPS
BRIEF FOR EDISON
1900-01

In the United States Patent Office

Interference No. 20,635

Frank L. Capps

versus

Thomas A. Edison

Subject-matter: Process of molding celluloid sound records

Process of duplicating phonographic records

Testimony on behalf of Capps

Brief for Capps

Brief for Edison

IN THE

United States Patent Office.

INTERFERENCE No. 20,635.

FRANK L. CAPPS

v.

THOMAS A. EDISON.

Subject-Matter: Process of Molding Celluloid Sound Records.

TESTIMONY ON BEHALF OF CAPPS.

PHILIP MAURO,
C. A. L. MASSIE,
Counsel for Capps.

BYRON S. ADAMS, PRINTER.

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IN THE

United States Patent Office.

FRANK L. CAPPS
vs.
THOMAS A. EDISON.
} Interference No. 20,635.

SUBJECT-MATTER: CELLULOID SOUND-RECORDS.

ISSUE.

The herein-described process of molding sound-records in celluloid, which consists of softening a celluloid tablet, and then forcing the same against a suitable matrix by its own expansive force.

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

Interference No. 20,635.

Preliminary Statement of Frank L. Capps.

STATE OF NEW YORK, }
County of New York, } *ss:*

Frank L. Capps, being first duly sworn, deposes and says that he is the Frank L. Capps named in and who executed the application for U. S. Letters Patent for Celluloid Sound Records & Process of Molding the Same, filed April 3, 1900, Serial Number 11,357, which application is involved in this interference with an application of Thomas A. Edison.

Deponent further avers that he conceived the invention disclosed by said application (particularly as set forth by claim 1 thereof) as early as the month of February, 1897;

That he disclosed the said invention to others shortly thereafter and earlier than February 18, 1897;

That he was engaged in reducing the said invention to practice and in experimenting to perfect the same and to obtain the bests results during the summer of 1897, and successfully reduced the said invention to practice by producing satisfactory sound-records by the process set forth in claim 1 of said application, at least as early as the month of July, 1897;

That, from the nature of his invention (the same being a *process* independent of any particular form of apparatus), he made no sketch thereof; and for a like reason he made no model;

That prior to the month of September, 1898, the said invention had never been carried on in public and the records

made in accordance therewith had never been used in public or been on sale or sold; but that since September, 1898, the process of the said claim 1 has been carried on extensively and a number of records made thereby in the city of Newark, in the Record Department of the American Graphophone Co. (his assignee) at No. 1159 Broadway, in the city of New York, and elsewhere.

FRANK L. CAPPS.

Subscribed and sworn to before me, this 8th day of August, 1900.

J. GALLWITZ,
[SEAL.] (1) *Notary Public, N. Y. C.*

IN THE UNITED STATES PATENT OFFICE.

BEFORE THE EXAMINER OF INTERFERENCES.

Interference No. 20,635.

Preliminary Statement of Frank L. Capps.

STATE OF NEW YORK, }
County of New York, } *ss:*

Frank L. Capps, being first duly sworn, deposes and says that he is the Frank L. Capps named in and who executed the application for U. S. Letters-patent for Celluloid Sound-Records & Process of Molding the Same, filed April 3, 1900, Serial Number 11,357, which application is involved in this interference with an application of Thomas A. Edison.

Deponent further avers that he conceived the invention disclosed by said application (particularly as set forth by claim 1 thereof) as early as Nov. 1, 1895;

That he disclosed the said invention to others at the same date;

That he reduced the said invention to practice on Jan. 16, 1896;

That, from the nature of his invention (the same being a *process* independent of any particular form of apparatus), he made no sketch thereof; and for a like reason he made no model;

That prior to the month of September, 1898, the said invention had never been carried on in public and the records made in accordance therewith had never been used in public or been on sale or sold; but that since September, 1898, the process of the said claim 1 has been carried on extensively and a number of records made thereby in the city of Newark, in the Record Department of the American Graphophone Co. (his assignee), at No. 1159 Broadway in the city of New York and elsewhere.

FRANK L CAPPS.

Subscribed and sworn to before me, this 2nd day of January, 1901.

ELISHA K. CAMP,
Notary Public, N. Y. C.

[SEAL.]

IN THE UNITED STATES PATENT OFFICE.

CAPPS
vs.
EDISON. } Interference No. 20,635.

Capps' Testimony in Chief.

Taken December 14, 1900.

IN THE UNITED STATES PATENT OFFICE.

In the matter of the Interference now pending before the Commissioner of Patents between the application of Frank L. Capps for celluloid sound-records, etc., filed April 3, 1900, serial No. 11,357, and an application of Thomas A. Edison for process of Duplicating Phonograms, filed March 3, 1898, serial No. 672,650. Interference No. 20,635.

Notice of Taking Testimony.

NEW YORK, N. Y., *Dec. 13, 1900.*

MESSRS. DYER, EDMONDS & DYER,
Attorneys for Applicant Edison,
No. 31 Nassau Street,
New York City.

GENTLEMEN :

You are hereby notified that on Friday, December 14, 1900, at my office, rooms 1308–10, No. 137 Broadway, Borough of Manhattan, City and State of New York, at 10.30 o'clock in the forenoon, before Elisha K. Camp, Esq., or other competent officer, I shall proceed to take testimony on behalf of the applicant Capps, the witnesses to be examined being the said Frank L. Capps and Victor H.

Emerson, both of the city of Newark, N. J., and possibly others.

The examination will continue from day to day until completed. You are invited to attend and cross-examine.

Dated December 13, 1900.

PHILIP MAURO,
Attorney for Capps.

Copy of the foregoing notice received this 13th day of December, 1900.

DYER, EDMONDS & DYER,
Attorneys for Edison.

IN THE UNITED STATES PATENT OFFICE.

CAPPS *vs.* EDISON. } Interference No. 20,635.

Testimony on Behalf of Capps.

137 BROADWAY, NEW YORK, *Dec. 14, 1900.*

Met pursuant to the annexed notice.

Present: C. A. L. MASSIE, Esq., on behalf of Capps;

FRANK L. DYER, Esq., on behalf of Edison.

Mr. MASSIE states that he has just been informed of newly discovered evidence showing the dates heretofore given by Mr. Capps in his preliminary statement are not as early as they should be; that he has been advised by Capps that this evidence was discovered within the last few days; and that due notice will be given of a motion for leave to amend Capps' preliminary statement in accordance therewith.

FRANK L. CAPPS.

And thereupon FRANK L. CAPPS, a witness summoned in his own behalf, being first duly sworn, testifies as follows in response to interrogatories propounded to him by Mr. MASSIE:

Question. 1. Please state your name, age, residence and occupation.

Answer. Frank L. Capps; age, thirty-one years; residence, Newark, New Jersey; occupation, manufacturer and inventor.

Q. 2. Are you the Frank L. Capps who made application for U. S. letters patent for "Celluloid Sound Records, and the Process of Molding the same," filed April 3, 1900, S. N. 11,357, involved in this interference with an application of Thomas A. Edison?

A. Yes.

Q. 3. Have you read and do you understand the issue of this interference?

A. Yes.

Q. 4. Please state when you first conceived the invention set out by the issue?

A. About the latter part of November or first of December, 1895.

Q. 5. At what time did you first disclose the invention to others, and to whom did you make such disclosure?

A. I disclosed the invention to Mr. Victor H. Emerson at that time.

Q. 6. When was the invention of the issue first carried out by you?

A. It was carried out between that time and the latter part of Jannary, 1896.

Q. 7. Please describe briefly what you did on the occasion when you carried out the invention as above.

A. I inserted the cylinder of celluloid which I made by

cementing the ends of a piece of sheet celluloid together into a matrix, and having softened the surface of the celluloid with a solvent—I used several different kinds of solvent to soften the celluloid—the celluloid became softened with the solvent and expanded into the matrix and received an impression of the surface of the matrix.

Q. 8. What solvent do you now recall as having been used at that time?

A. Amyl-acetate.

Q. 9. Why did you employ sheet celluloid instead of a tube already formed? was there any advantage in this?

A. I could not obtain celluloid tubing at that time.

Q. 10. Was the record molded as stated in your answer to question 7 a good record?

A. Yes.

Q. 11. Did you or did you not on the occasion referred to employ a mandrel or spreader to force the celluloid against the matrix?

A. Not on the occasion referred to.

Q. 12. Does your answer to question 7 describe the process that you have since then carried out, particularly since the last two or three years?

A. Yes, it is about the same. We sometimes immerse the celluloid into a solution.

Q. 13. Do I understand that on the occasion of your first carrying out the process, you did not "immerse the celluloid into the solution"? and if you did not, in what manner did you apply the solvent?

A. I held the cylinder in my hand and poured the solvent upon it and then quickly inserted the cylinder into the matrix, and I also poured it in between the matrix and the celluloid.

Q. 14. Can you state how you fix the date above given, viz, between the latter part of November, 1895, and the first of part January, 1896?

A. I fix this date by the fact that I rented a room for the purpose of doing this work at 116 Sheffield street, Newark, New Jersey, and I began work in this room during the month of November, 1895, and worked continuously at that place for several months, and we also found a diary record showing some of the dates on which we did certain work.

Q. 15. Referring to the "record" in your last answer, who made this record?

A. I made the record and was assisted by Mr. V. H. Emerson and his father. If you refer to the diary record, Mr. V. H. Emerson made it.

Q. 16. You have, as I understood your former answers, carried out this same process from time to time since the date first mentioned, have you not?

A. Yes.

(Counsel for Edison objects to so much of the above testimony as is at variance with the preliminary statement filed by Mr. Capps; he will oppose any motion which may be made for the amendment of that statement; and prior to the hearing he will move to have so much of Mr. Capps' deposition as may be at variance with the statement stricken from the record; and the cross-examination of the witness is conducted with this understanding and without waiving any rights.)

Cross-examination:

×-Q. 17. You state that you are by occupation a manufacturer and inventor. I presume you have had occasion to file a number of applications for patents at various times. Can you give me an idea of about how many applications you have filed since the beginning of 1896?

A. I cannot say exactly, but about seven or eight applications I think.

×-Q. 18. Were any of these applications to which you have referred filed between January, 1896, and April, 1900?

A. Yes.

×-Q. 19. Can you state also whether you filed any applications for patents between the months of February, 1897, and April, 1900?

(Counsel for Capps objects to this line of questioning as being irrelevant and immaterial; and further as not being proper cross-examination.)

A. Yes.

×-Q. 20. What was the character of the matrix referred to in your answer to question 7?

A. It was a copper matrix.

×-Q. 21. Did you make it?

A. Yes.

×-Q. 22. You state that the record made by you from this matrix was formed of a piece of sheet celluloid bent into cylindrical form; this would result in the formation of a seam running lengthwise of the duplicate, would it not?

A. The joint was carefully made and bevelled so that the thickness was not changed and the cylinder was apparently as perfect at that point as at any other.

Re-direct:

Re-D. Q. 23. Referring to your answer to ×-Q. 20, please state whether or not you always confined yourself to the use of a copper electroplate matrix in carrying out the process of the issue?

A. I did not.

Re-D. Q. 24. Referring to the answer to ×-Q. 17 *et seq.*, on whose behalf were the applications filed by you, to what concern were they assigned?

A. The American Graphophone Co.

Re-D. Q. 25. Please state whether or not the manage-

ment of the said American Graphophone Co. had instructed you to turn your attention to matters different from the invention in issue?

A. It did.

Re-cross:

Re-×-Q. 26. Do I understand that all the applications filed by you between the 1st of January, 1896, and April, 1900, were filed in the interest of and for the American Graphophone Co., and that you filed no applications on your own behalf, or on the behalf of no one else?

A. I have applied for a number of patents within this time, some of which were assigned to the American Graphophone Co., some to others, and some of which were not assigned to any one.

Re-direct:

Re-D. Q. 27. Am I to understand you, however, that in the main, the body of your inventive work was done on behalf of the Graphophone Co. and at the request of its management?

A. Yes.

FRANK L. CAPPS.

VICTOR H. EMERSON.

And thereupon, VICTOR H. EMERSON, a witness summoned on behalf of applicant Capps, being first duly sworn, testifies in response to interrogatories propounded to him by Mr. MASSIE, as follows:

Question 1. Please state your name, age, residence and occupation?

Answer. Victor H. Emerson; age, thirty-three; residence, Newark, New Jersey; occupation, superintendent of record making for the Columbia Phonograph Company.

Q. 2. Have you read and do you understand the invention forming the issue of this interference?

A. I have, and I do understand it.

Q. 3. Do you know Frank L. Capps, the applicant involved in this interference? and if so, how long have you known him?

A. Since January, 1894.

Q. 4. Do you know anything, of your own knowledge, as to the invention of this issue, and concerning the facts and dates of its development?

A. I do.

Q. 5. Please state briefly what you know concerning its early history?

A. About November, 1895, Mr. Capps suggested to me that it might be possible to make a permanent record for the purpose of using it as a master on a duplicating-machine. I suggested that we go into the matter, which he agreed to. We hired a room on Sheffield Street, and started to work on it there. We set up an electroplating-apparatus, electroplating sound-records for the purpose of obtaining a matrix. Into this matrix we molded and flowed various materials, and among the records made was a celluloid one produced by forming a sheet of celluloid into a cylinder, immersing this into a bath of collodion and putting this into the matrix, and allowing it to set. We found some difficulty in getting the record into the matrix without trapping air, and to overcome this first submerged the electroplate in a solution of collodion and then placed the cylinder into this while it was completely under the surface. This kept the air from being trapped. The blank was put in dry and after standing a few minutes would absorb a certain amount of the solvent or solution, which would cause it to swell outward against the matrix. The whole was then removed from the bath, the solvent evaporated from the record, and the record taken from the matrix.

Q. 6. You also used the pouring process, and other solvents, did you not?

A. We did.

Q. 7. Have you any memoranda that would assist you in fixing the time when the process was first carried out?

A. I have. I now produce a book containing the same.

Q. 8. Please read the entry you refer to.

A. I read it as as follows:

"Jany. 16/96 sheet celluloid cyldr
In record with colodion bath
Transfer O. K. but shrunk"

Q. 9. In whose handwriting is this entry?

A. My own.

Q. 10. When was it made?

A. About a day after the experiment was made.

Q. 11. Do you mean that the entry was made on the date it bears, viz, "Jany. 16/96"; or that the experiment was made on the date given, and the entry made subsequently?

A. The record was taken from the matrix on that date, January 16, 1896.

Q. 12. Is collodion a solvent of celluloid?

A. It is.

Q. 13. What did you mean in this memorandum when you said that the celluloid cylinder was inserted into a "record"?

A. I should have said "matrix"; it is impossible, of course, to insert anything in a record.

Q. 14. Have you any further memoranda on the subject?

A. An entry of Feb. 18, 1897, in a smaller book, which is as follows:

"Ther. Thurs. Feb. 18, 1897 WEA.
get celluloid
tubing for Capps
Ther. Friday, 19 WEA.
get sheet celluloid
colodion"

Q. 15. In whose handwriting is this last entry, and when was it made?

A. It is in my own handwriting, and was made on February 18, 1897, and February 19, 1897.

Q. 16. Can you state, from your own knowledge and recollection, the purpose for which you got this celluloid and collodion for Capps?

A. He ran out of his material and asked me to get him a stock of it.

Q. 17. What was it to be used for?

A. For the purpose of making celluloid records.

Q. 18. How?

A. It was to be used in making records by molding as explained in my answer to question 5.

Q. 19. Were you and Mr. Capps at that time engaged in carrying out the same process that you carried out in January of 1896?

A. We were.

Q. 20. Have you any further entry on the same matter?

A. I have, and read it as follows:

"Ther. Wednesday 3 WEA.
15 ℈ colodion
10 ℈ ether for
celluloid solvent"

this entry is on a page which at its top bears the date Tues. Mar. 2, 1897.

Q. 21. Are you in the habit of keeping a diary regularly, and did you keep a regular diary during the years 1896 and 1897?

A. I am, and I did.

(Attorney for Capps here states that the note books or diaries referred to contain other entries of personal and private nature which precludes their being offered

in evidence; that Mr. Emerson submits the same, or the pertinent parts thereof, to the inspection of Edison's attorney; and that if the latter gentleman so desires, blue prints or photographs of the entries already quoted will be furnished.)

(Counsel for Edison in reply states that he will not insist on the record books or fac-similies of the matter above quoted being introduced.)

Cross-examination:

×-Q. 22. How long have you been intimately associated with Mr. Capps?

A. Since 1894.

×-Q. 23. How close has your connection been with him; do you see him every day or so?

A. We worked for the same company for two or three years and still have business relations together. I see him almost every day.

×-Q. 24. And I presume for the past year or so you have seen him every day?

A. Yes, sir.

×-Q. 25. In your answer to question 5 you state that you obtained a matrix by electroplating sound-records. I wish you would be good enough to elaborate this if possible.

A. By coating the surface of a record with plumbago, putting it in an electroplated bath, and plating.

×-Q. 26. How did you remove the duplicate record from the matrix?

A. With some solutions used as a solvent (such as amyl-acetate) when allowed to get thoroughly hard the celluloid cylinder would stick to the copperplate, and in this case it was sometimes necessary to tear the copperplate matrix off. With other solutions, the celluloid would free itself from the copperplate and the former could be collapsed slightly, bent

inwardly, and removed longitudinally. The trick of removing the record was in removing it at the right time, before it got too hard.

×-Q. 27. With reference to your memoranda book from which you have quoted a statement dated Jan. 16, 1896, is it not a fact that the statements which immediately follow are undated until the date July 26, 1897, is reached?

(Objected to on the ground that the memorandum book is not in evidence, and therefore not the proper subject of cross-examination.)

A. It is a fact.

×-Q. 28. Do you find that this statement alleges that a celluloid cylinder was inserted into a record?

(Objected to on the ground that exactly what the entry does state is a matter for the determination of the proper tribunal; and further, on the ground that the extract is inserted merely to fix the date in order to refresh the recollection of the witness.)

A. I do.

×-Q. 29. With reference to your diary enteries of Feb. 18 and 19, 1897, did you find it impossible to get celluloid tubing and was it for this reason that the last entry refers to sheet celluloid?

(Objected to as irrelevant and immaterial.)

A. It always was a question with us as to whether we could get in the open market celluloid tubing of the proper size. The memorandum was made more for the purpose of investigating that question and to find out if this was a stock article of commerce. The object of getting the sheet celluloid was to be able to go ahead and begin work, and not wait for the tubing.

Re-direct:

Re-D. Q. 30. Have you ever, so far as you know, made and dated an entry in a memorandum book or diary that bore a date different from the date of the entry, or at least different from the date of the transaction thereby recorded?

A. I have not.

Re-D. Q. 31. Was there any great difficulty encountered in removing the celluloid record molded in accordance with the issue; or, at least, was there any difficulty which Mr. Capps and yourself did not surmount?

A. There was not.

(Counsel for Edison gives the same notice concerning the testimony of the above witness as was given in connection with the testimony of Mr. Capps, and of his intention at the proper time to have the deposition stricken from the record.)

(Attorney for Capps states that Philip Mauro, Esq., attorney of record for the applicant Capps, is expected in this city the latter part of next week; that at that time, or shortly thereafter, due and timely notice will be given of a motion for leave to amend the preliminary statement of Capps in order to set forth the date of conception of invention forming the issue as being November 1, 1895; the disclosure to others as of the same date; and the reduction to practice as January 16, 1896.)

VICTOR H. EMERSON.

IN THE UNITED STATES PATENT OFFICE.

CAPPS
vs.
EDISON. } Interference No. 20,635.

Certificate.

STATE OF NEW YORK, }
County of New York, } *ss:*

I, ELISHA K. CAMP, a Notary Public within and for the county of New York, in the State of New York, do hereby certify that the foregoing depositions of Frank L. Capps and Victor H. Emerson were taken on behalf of said Capps in pursuance of the notice hereto annexed, before me at No. 137 Broadway, borough of Manhattan, city and State of New York, on the 14th day of December, 1900; that the said witnesses were by me duly sworn before the commencement of their testimony; that the testimony of said witnesses was written out by Miss Josephine Taylor in my presence; that the opposing party was represented by Frank L. Dyer, Esq., his counsel; that the said testimony was taken at the place and date aforesaid, commencing at 10.30 o'clock in the forenoon, and was completed by one o'clock in the afternoon of the same day; and that I am not connected by blood or marriage with either of said parties, nor interested directly or indirectly in the matter in controversy.

In testimony whereof I have hereunto set my hand and affixed my seal of office in the county and State aforesaid, this 14th day of December, 1900.

ELISHA K. CAMP,
Notary Public, N. Y. C.

[SEAL.]

[Ten-cent United States Internal Revenue stamp, cancelled.]

[Endorsed :]

I hereby certify that the within depositions of Frank L. Capps and Victor H. Emerson, relating to the matter of Interference between said Capps and T. A. Edison, was taken, sealed up, and addressed to the Commissioner of Patents by me this 20th day of December, 1900.

ELISHA K. CAMP,
Notary Public, N. Y. C.

[Ten-cent United States Internal Revenue stamp, cancelled.]

In the United States Patent Office.

FRANK L. CAPPS
vs.
THOMAS A. EDISON.
} Interference No. 20,635.

BRIEF FOR CAPPS.

The issue in controversy relates to a process of producing sound records in celluloid by forcing a celluloid tablet, having its surface in a softened condition, against a matrix bearing an impress of the original sound record. Although the processes of the contestants differ specifically in that in Edison's invention the expansion which forces the celluloid tablet against the matrix is caused by heat, while in Capps' invention said expansion is due to the action of a solvent, the processes are the same in so far as the broad terms of the issue of this interference are concerned for the reason that in both the celluloid tablet is forced "against a suitable matrix by *its own expansive force.*"

Edison, the senior party, has taken no testimony and therefore stands upon the date of filing his application, to wit, March 3, 1898, as his date of invention.

Capps, the junior party, testifies in his own behalf and his testimony is corroborated by that of Mr. Victor H. Emerson, who has been "intimately associated" with Mr.

Capps since 1894 (Emerson's Testy., ×-Q. 22), and by entries made by Emerson in a memorandum book and in a diary. Quotations from said memorandum book and diary will be found in the record, but the books or fac-similes of the entries referred to are not offered in evidence in view of the statement made by counsel for Edison that he would not insist upon the introduction of the same (see Capps' printed record, top of page 15).

At the beginning and at the conclusion of the taking of testimony for Capps, the latter's attorney gave notice of a motion to file an amended preliminary statement, which motion was subsequently made and granted by the Examiner of Interferences. Counsel for Edison gave notice that prior to the hearing he would move to have so much of the deposition of Capps and Emerson as is at variance with the Capps' original preliminary statement stricken from the record. But no such motion has been made. In any event, there can be no question as to Capps' right to rely on the dates set up in his amended statement and to introduce evidence to establish said dates.

From the evidence adduced by Capps it appears that the invention in issue was conceived about the latter part of November, 1895, and was successfully carried out between that time and the latter part of January, 1896, by inserting a celluloid cylinder into a suitable matrix and causing the cylinder to expand against the matrix by the action of a solvent (amyl-acetate) on the celluloid (see Capps' Qs. 6, 7 and 8 ; Emerson Qs. 5 and 6). Capps fixes this date by the renting of a room (Q. 14, pp. 8 and 9, of Record) for the purpose of doing the work on the invention ; also by book entries made by Mr. Emerson and "showing some of the dates on which we did certain work." Emerson absolutely fixes the time when the process was first carried out by an entry made by him in a memorandum book under date of Jan. 16, 1896 (Qs. 7–11, p. 13).

Acting under instructions from the American Graphophone Co., in whose behalf Capps' work on this and other inventions had been done, Capps turned his attention to matters different from the invention in issue (Re-D. Qs. 24, 25, and 27). Nevertheless, Capps continued, from time to time, to practice the process. Emerson testifies that in the early part of 1897 (February and March) he and Capps were engaged in carrying out the process, and supports his testimony by references to entries in his diary under dates of February 18th, 19th, and March 3d of that year (Qs. 14–21, pp. 13, 14).

It is therefore established on behalf of Capps that the invention was reduced to practice as early an Jan. 16, 1896, and that the process was practiced at subsequent dates prior to the date of filing, Mar. 3, 1898, of the Edison application. Capps is therefore the prior inventor and the decision should be in his favor.

Respectfully submitted,

PHILIP MAURO,
REEVE LEWIS,
C. A. L. MASSIE,
Of Counsel of Capps.

United States Patent Office.

CAPPS

vs.

EDISON.

Interference No. 20,635.

PROCESS OF DUPLICATING PHONOGRAPHIC RECORDS.

BRIEF FOR EDISON.

DYER, EDMONDS & DYER,
Attorneys for Edison.

FRANK L. DYER,
Of Counsel.

C. G. Burgoyne, Walker and Centre Streets, N. Y.

UNITED STATES PATENT OFFICE.

CAPPS

vs.

EDISON.

Interference No. 20,635.
Process of Duplicating Phonographic Records.

BRIEF FOR EDISON.

Statement.

This is an interference between an application of Edison filed March 3d, 1898, and an application of Capps filed April 3d, 1900. Edison has taken no testimony, but relies on his record date. The amended preliminary statement of Capps alleges conception in November, 1895, disclosure to others at the same time, and reduction to practice in January, 1896.

The Invention Involved in Controversy.

The common subject-matter for which both parties are contending is a process for making duplicate copies of phonographic records. These records, as is well known, are extremely delicate in character, each record groove having a width of only one one-hundredth of an inch, and the waves which are cut or otherwise formed therein being never greater than one one-thousandth of an inch in depth. Obviously,

a process which has to do with the duplication of records of this minutely delicate character must of necessity be highly perfected, if successful results are to be secured. By "successful results" we mean, of course, the production of duplicates which are capable at least of intelligent reproduction and which, if commercially successful, ought to compete in quality with original records. It is important to bear this fact in mind, because in the consideration of Capps' case we shall show that there is no evidence to support his claim of actual reduction to practice by him, in the sense of such a carrying out of the process as amounts to a completion of the invention.

The process, as it is described by Edison in his application, consists in first taking an original record from which copies are to be made, coating it with a fine film of a conducting material which follows all the undulations and sinuosities of the record groove, electroplating on such a film to form a matrix or mold, removing the original record, introducing within the matrix or mould a blank of celluloid or other material on which an impression is to be secured, heating the blank so that its surface becomes sufficiently softened, and to also cause it to expand into engagement with the record surface of the matrix to take an impression therefrom, and finally removing the resulting duplicate copy by contracting the same radially and withdrawing it longitudinally.

The process as described by Capps consists in first taking an original record, making a matrix therefrom "as by casting or by depositing upon the surface of the original record a film or coating of chromatized gelatine," inserting a celluloid blank within the matrix so produced, immersing the blank and matrix in a celluloid solvent, such as amylacetate which softens the celluloid and causes it to expand into engagement with the record surface of the matrix, and finally removing the record so produced.

In both processes, therefore, it becomes first necessary to make an accurate matrix which carries on its bore a mathematically correct negative copy of an original record, and to secure duplicates from the matrix by introducing therein a celluloid blank which is softened (by heat as with Edison or by a solvent as with Capps), and caused to expand to take an impression from the matrix.

The issue which covers this common invention is thus defined by the Office :

> " The herein described process of molding sound records in celluloid, which consists of softening a celluloid tablet and then forcing the same against a suitable matrix by its own expansive force."

The claim, if granted to either party to the interference, must, of course, be read in connection with the specification, from which it must appear that " a suitable matrix " is one which contains an accurate negative representation of a phonographic or sound record from which a satisfactory duplicate copy can be produced.

The Capps Case.

Capps rests his case on the testimony of himself and Emerson. In describing the process which was carried out by him in January, 1896, and which it is argued constitutes a reduction to practice, Capps (Q. 7) says :

> " I inserted the cylinder of celluloid, which I made by cementing the ends of a piece of sheet celluloid together into a matrix, and having softened the surface of the celluloid with a solvent—I used several different kinds of solvent to soften the celluloid—the celluloid became softened with the solvent and expanded into the matrix and received an impression of the surface of the matrix."

At that time he did not " employ a mandrel or spreader to force the celluloid against the matrix " (Q. 11). Being asked if the process as described by him

is that which he afterwards carried out, "particularly since the last two or three years," or since 1898 or 1899, he said that "it is about the same;" that sometimes the celluloid was immersed in the solution (Q. 12); although, in reference to his first experiment, he said (Q. 13):

> "I held the cylinder in my hand and poured the solvent upon it and then quickly inserted the cylinder into the matrix, and I also poured it in between the matrix and the celluloid."

Capps states that the record made by the carrying on of the process in January, 1896, was "a good record," but neither it nor the matrix from which it was made is produced, nor is there any reason given why both should not have been offered in evidence.

So far as this alleged reduction to practice is concerned, the most that can be said for it is that in the latter part of January, 1896, Capps poured a suitable solvent over a single celluloid cylinder, inserted the latter into a matrix, introduced more solvent between the matrix and the cylinder, and allowed the latter to expand. It does not appear, however, from the evidence that the matrix was one which contained the representation of a phonographic or sound record, or, in other words, that it was the "suitable matrix" of the issue. We believe that it is the practice at the present time, and at any rate it is certainly possible, to mold or cast in phonograph records the name of the selection which they carry or some suitable advertising matter, and that these impressions are received from a matrix carrying them. Capps, at the time of the alleged experiment, was working for the American Graphophone Company (Re-d. Q. 25), and it might very well be that the matrix referred to was one which carried on its surface only the name of that company, so that records made therein would receive an imprint therefrom. So far as the description of the process by Capps is concerned,

there is nothing to negative the assumption that the matrix was of this character and did not carry any representation whatever of a phonographic or sound record.

It is also to be noted in connection with the testimony of Capps himself that while in his first experiment, the solvent was poured over the celluloid cylinder and the latter inserted into the matrix, at a later date, which Capps does not state, it seems to have been the practice to immerse the celluloid in the solvent, as described in his application. The purpose of this expedient is fully explained by Emerson, whose testimony bearing on the point we shall now consider. This witness says (Q. 5):

> "About November, 1895, Mr. Capps suggested to me that it might be possible to make a permanent record for the purpose of using it as a master on a duplicating machine. I suggested that we go into the matter, which he agreed to. We hired a room on Sheffield Street, and started to work on it there. We set up an electroplating apparatus, electroplating sound records for the purpose of obtaining a matrix. Into this matrix we molded and flowed various materials, and among the records made was a celluloid one produced by forming a sheet of celluloid into a cylinder, immersing this into a bath of collodion and putting this into the matrix, and allowing it to set. We found some difficulty in getting the record into the matrix without trapping air, and to overcome this first submerged the electroplate in a solution of collodion and then placed the cylinder into this while it was completely under the surface. This kept the air from being trapped. The blank was put in dry, and after standing a few minutes would absorb a certain amount of the solvent or solution, which would cause it to swell outward against the matrix. The whole was then removed from the bath, the solvent evaporated from the record and the record taken from the matrix."

The witness also states (Q. 6) that they had used "the pouring process," without explaining the meaning thereof, and that other solvents than collodion were used. Emerson, however, refers to the early work as "the experiment" (Q. 7), which he states was carried on in January, 1896, but he does not describe

the record secured, nor corroborate Capps in the latter's statement that it was a good record.

We have referred to all the testimony which bears on the alleged reduction to practice by Capps in January, 1896, and we confidently submit that Capps has completely failed to satisfactorily assume the burden of proof or to overcome Edison's *prima facie* case for the following reasons :

1. Capps nowhere states in his deposition that the matrix used by him was one carrying a negative representation of a phonographic record, or that, in other words, it was the "suitable matrix" of the issue.

2. Capps states that, when the process was first carried on, the solvent was applied to the celluloid cylinder by pouring it over the same, but that during the last two or three years the process had been modified to the extent of immersing the celluloid in the solution. Emerson, in describing the process as he saw it carried out, states that the celluloid was immersed in the solution, and, therefore, if the testimony of this witness is to be reconciled with that of Capps, it must appear that the process which Emerson describes (Q. 5) is the one which Capps carried out during the last two or three years, or subsequent to the filing of the Edison application. If by the statement, "We found some difficulty in getting the record into the matrix without trapping air," Emerson has reference to the process, which Capps describes, of pouring the solvent over the celluloid, and then inserting the latter into the matrix, it is clear that the original process was unsatisfactory and ineffective, because the presence of air bubbles in a duplicate would render it worthless.

3. Although Capps states that the record which he claims to have made in January, 1896, was "a good record," it is not produced, and no explanation is offered to explain the omission. Emerson does not

corroborate Capps in reference to the character of the record, but, on the contrary, makes a very significant suggestion when he speaks of the early difficulties of "getting the record into the matrix without trapping air."

4. The alleged work in January, 1896, is directly referred to by Emerson as being an "experiment," and it does not appear from the deposition of either witness that it was otherwise. In fact, the only conclusion which can be drawn from the entire testimony is that, while some sort of an experiment may have been made in January, 1896, it was not until the last two or three years that the trapping of air was overcome by actually immersing the celluloid in the solution. Viewing the testimony in the most favorable light for Capps, the work in January, 1896, can only be regarded as an unsuccessful and impracticable experiment, which does not seem to have been resumed until a much later date after Edison's application had been filed, and which in no case can be considered such a complete and proved reduction to practice as to overcome Edison's *prima facie* case.

5. As for the work in January, 1896, Capps states (Q. 7) that only a single celluloid cylinder was used, and that only a single record was made (Q. 10). Emerson also says (Q. 5) that "among the records made was a celluloid *one*." The making of a single record, which is not produced nor its loss explained, by a process concerning which the two witnesses do not agree, and which is referred to by one of them as an "experiment," does not, we submit, present such a clear case as amounts to a satisfactory assumption of the burden of proof.

The Failure of Capps to Produce the Single Record Which He Claims to Have Made in January, 1896, or to Explain Its Loss.

If Capps, in fact, did make a record which, according to his unsupported statement, was a good record, it was incumbent upon him to produce it, in order that the Court might satisfy itself of the truth of the statement. Whether a record is good or not can be readily ascertained by merely trying it in a phonograph. If the record was lost, that fact should have been satisfactorily explained. The failure to produce the record, or to explain its loss, or to elicit from Emerson any statement concerning it, is significant. In Shellaberger vs. Sommer & Sommer (68 O. G., 533; C. D. 1894, 74), it was urged by Shellaberger that a considerable quantity of the improved fence had been made by him at an early date, and which was cut up into numerous short lengths, but which were not produced nor their loss accounted for. Shellaberger did, however, offer in evidence a section of fence, which a number of witnesses identified as a reproduction of the original exhibit. The Commissioner said :

> "But the impressive thing about this part of the Shellaberger record is that every vestige of the fence and of the machine that made it has wholly disappeared, and at the time of taking this testimony nothing remained of them except in the recollection of five men, one a party in this case and another his son. It is not necessary to frame a theory how these witnesses may be mistaken. The recollection of none of them is exceptionally good. As a whole, their statements are wanting in probability, and when weighed against the exhibits they are in very material parts contradicted by them. In the absence of all the sketches, the parts of the machine, and all the numerous specimens made by it, without any serious attempt to recover them and with their loss insufficiently accounted for, it must be held that Shellaberger has fallen short in his proofs, or else that the numerous specimens, the parts of the machine and the sketches never existed."

In Shellaberger vs. Sommer *et al.* the issue included an article made by a machine, neither of which was produced nor its loss satisfactorily explained, although five witnesses testified concerning the reconstructed exhibit. In the present case the issue covers a process which is carried out in connection with a matrix for the production of a duplicate record; neither the matrix nor the record is produced nor its loss explained; no attempt is made, as in the former case, to identify a copy of either; and instead of the testimony of five witnesses, we have only the testimony of the applicant himself that the resulting record was a satisfactory one. We submit, therefore, that the present case offers even stronger grounds than Shellaberger vs. Sommer *el al.* for holding that the junior party "has fallen short in his proofs, or else that the * * * specimens * * * never existed."

The Filing by Capps of Other Patent Applications Between January, 1896, and April, 1900.

Capps states (x-Q. 18) that in this period "about seven or eight applications" were filed by him, principally for the American Graphophone Company (Re-d. Q. 27). If the process was actually reduced to practice in January, 1896, and the invention was therefore complete, it is a most suspicious and significant circumstance that that Company should have withheld the filing of the present application for more than four years when we consider the trivial cost incurred thereby. It does not appear from Capps' testimony when the process was actually put into use by him, although the original preliminary statement alleges that the process was successfully carried out in September, 1898, or more than two and a half years after the first experiments, and more than six months after the filing of the Edison application. This delay is

likewise significant when we consider the fact that the Company was evidently standing ready to take up such of Capps' ideas as may have been completed and file applications thereon. The statement by Capps that the Company had instructed him to turn his attention "to matters different from the invention at issue" (Re-d. Q. 25), does not, we submit, satisfactorily explain the delay, but, on the contrary, when we read between the lines, it seems probable that the Company did not regard the invention as sufficiently complete to warrant the comparatively trivial expense of a patent application. In Rennyson vs. Merritt, C. D., 1893, page 42, the Commissioner said:

> "Rennyson claims to have conceived and to have reduced to practice in the first half of the year 1887. He claims to have applied and tried the improvement practically for a short period at that time, when its use was discontinued until after his application for patent was filed, May 6, 1889. Meanwhile he applied for two other patents upon devices of the same general nature, neither of them showing this improvement. Of a somewhat similar state of facts, the Supreme Court once said: 'Now, if Norton had, as he pretends, invented, as early as 1854, the stamps for which he took out his subsequent patents in 1862 and 1863, it is hardly conceivable that he should have taken out the patents for 1857 and 1859 in the form in which they stand. The fact that he did not take them out reduces it almost to a demonstration that he had not invented any such stamps at this time' (James vs. Campbell, 104 U. S., 356). It is not doubted that Rennyson tried the improvement in controversy experimentally in the first half of 1887, but his subsequent conduct already referred to is inconsistent with the finding that he then made the thing successful."

*

On the general subject of delay in applying for a patent after an alleged completion of an invention by actual reduction to practice, the Court of Appeals of the District of Columbia, in the recent case of Fevel vs. Stocker, 94 O. G., 433, had occasion to pass upon a state of facts closely analogous to that which is here presented. On behalf of Stocker it was claimed that a full-sized, complete and operative machine had been

likewise significant when we consider the fact that the Company was evidently standing ready to take up such of Capps' ideas as may have been completed and file applications thereon. The statement by Capps that the Company had instructed him to turn his attention "to matters different from the invention at issue" (Re-d. Q. 25), does not, we submit, satisfactorily explain the delay, but, on the contrary, when we read between the lines, it seems probable that the Company did not regard the invention as sufficiently complete to warrant the comparatively trivial expense of a patent application. In Rennyson vs. Merritt, C. D., 1893, page 42, the Commissioner said:

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*It appears that since the taking of testimony in the case, a patent was issued to the American Graphophone Company as the assignee of Capps, No. 666,493, dated January 22, 1901, for a duplicate sound record and process of forming the same, the application for which was filed March 8th, 1899, or more than a year prior to the Capps application in interference. Hence the present facts are absolutely analogous to those which existed in Rennyson vs. Merritt and James vs. Campbell (supra).

presented. On behalf of Stocker it was claimed that a full-sized, complete and operative machine had been

constructed by him in March, 1894, after which, until the filing of Stocker's application in June, 1898, it encountered many vicissitudes and was sent back and forth from place to place. The Court said:

> "It is conceded that the machine as it now exists was satisfactorily operated before the Examiner of Interferences in the Patent Office; but it is not sufficiently shown that it was satisfactorily operated by Stocker when it came to him from the hands of Weiss Brothers. *Moreover, its apparent abandonment by Stocker and a long and wholly unexplained delay of more than four years in the application for a patent are strongly indicative of the fact that the original machine of Stocker was not a successful reduction to practice, and was not more than an abandoned experiment. Long and unexplained delay in the application for a patent is always significant in such cases, especially when, as here, the parties in interest were actively engaged in the prosecution of other similar applications; and such delay raises a presumption which it is incumbent on the applicant to rebut by clear and satisfactory proof.* * * * * We have held, and it is no more than just, that inventors striving honestly, in good faith, and with due diligence to perfect their inventions instead of engaging in a race of diligence to reach the Patent Office with crude and probably inoperative devices, should be commended for their delay rather than be charged with laches (Yates vs. Huson, 8 D. C. Appeals, 23). But it harms no meritorious inventor, and it is greatly to the interest of the public, that long delay, unexplained, between the time of the alleged invention and the application for patent, when other inventors have entered the same field and other rights have accrued, should be held to bar stale claims of priority. *A stale claim should be fortified by the very strongest and most satisfactory proof before it can be allowed to overthrow the vested right of a patent already issued.*" * * * * * * * *

It strikes us that if the proof of Capp's work in January, 1896, were sufficient to show beyond doubt that the record made by him was satisfactory, yet in view of the unexplained delay between that time and the filing of the application, his case could only be regarded as a stale claim, and therefore subject to the same condemnation as was the case of Stocker. When, however, we consider the fact that the proof

of this early work is entirely insufficient, that the one solitary record is not produced, that the two witnesses do not agree in explaining the process, and that after a single first experiment nothing further was done with the process until after the filing of the Edison application, we submit with confidence that Capps has fallen far short of making out such a case as will overcome that on which Edison rests by reason of his early date of filing.

In *Tyler vs. St. Amand* (94 O. G., 1969) the Court of Appeals of the District of Columbia again had occasion to pass upon a similar situation. The appellant Tyler claimed to have made two hinges embodying the design in September, 1893, but nothing was done with them until January, 1897, when they were lost. In March and April, 1897, two more hinges were made, and in June, 1897, actual manufacture was commenced. The appellee did not conceive of the invention until January, 1897. The Court of Appeals quoted with approval from the decision of the Acting Commissioner, who said :

> " Tyler's action in putting the hinges aside and doing nothing further in the matter for three years and a half is particularly significant in view of the fact that in 1893 the Company was engaged in manufacturing hinges as well as lasts, and of the further fact that Tyler not only claims to have appreciated the value and utility of his hinge, but it also appears that during a part at least of his delay he knew of Arnold's hinge embodying the same general ideas being put on the market by a rival company. *His inaction under the circumstances is inconsistent with his claim that he was in possession of the invention.* His conduct raises a strong presumption that he was not and makes it incumbent upon him to establish the fact by evidence so clear and convincing as to leave no reasonable doubt in the matter."

For additional authority on the point we refer to the cases given by the Court in *Tyler vs. St. Amand*, as supporting in their opinion the decision of the Acting Commissioner regarding the weight to be given to a

reduction to practice " in the light of the surrounding circumstances " :

Beals vs. Fickenbiner, 82 O. G., 598.
Warner vs. Smith, 84 O. G., 311.
Appert vs. Schmertz, 84 O. G., 508.
Traver vs. Brown, 86 O. G., 1324.
Esty vs. Newton, 86 O. G., 789.
Nielson vs. Bradshaw, 91 O. G., 644.
Reichenbach vs. Kelley, 94 O. G., 1185.

Conclusions.

We submit in conclusion :

(1) That Capps never reduced the invention to practice before the filing date of the Edison application, nor offers adequate proof of a definite conception of the invention.

(2) That whatever Capps did in January, 1896, was only an abandoned experiment.

(3) That if it be admitted that in January, 1896, Capps had a conception of the invention, he was not duly diligent in either actually or constructively reducing it to practice.

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March 20, 1901.